	er ID 120522 ne 04, 2014 3:07:32 PM		*120	1522*						Page 1
Item ID: Revision ID:	D3490-5		Accept	*N900	<u>040</u>	100	<b>)</b> * s	Setup Sta	rt *N	S1*
Item Name:	Cross Bolt Spacer							Sto	φ <b>*</b>	S2*
Start Date:	6/04/14 <b>Start Qty:</b> 30.0	° *30*	·	Cust Item 1	ID:				1 4	. 12
Required Date: Reference:	<b>Req'd Qty:</b> 30.0			Customer:						
Approvals:	Process Plan: ML3	Date: 1476-09	Tooling:	D	ate:	_	R	Run Sta	^I <i>V</i> I	R1*
ř	QC:	Date:	SPC (Y/N):	D	ate:			Sto	<sup>p</sup> *N	R2*
Sequence ID/ Work Center I	Operation Description		Set Up/ Run Hours	Tool ID	Tool#	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr	*								
D3490	Rev A									
*100*	Hardinge CNC LATH	IE SMALL	0.00				33	Ø	·	DAS 20 9-89 14-06-1
Hardinge	Memo		0.00				<u></u>			9-89 14-06-1
Hardinge CNC Lath	he Small 1-TURN FOLIO R DWG RE	AS PER FOLIO FA630 & DW EV: AA EV: A RR AS REQUIRED	/G D3490					,	,	
*110	QC2- Inspect parts of	f machine FAI/FAIB	0.00				33	e <sub>Y</sub>	,	DAS 20 9-89 14-06-7
QC Quality Control	Memo		0.00							
120	QC8- Inspect parts - s	second check	0.00				27	~		DA8 40
*120* QC Quality Control	Memo		0.00				33_	_Ø_	<del>.</del>	14/06/65

DQA:			Date:			_									TOACT	
QA Closed:			Date:			WORK ORDER NON	-C(	ONFO	RMANCE / UF	PDATE	14/	/			AEROSPACE	
QA Closed.			Date.								VV	ork Order u	pdate only		<u> </u>	
   Work Orde	er:					DISPOSITION				AGAINST	DE	PARTMENT	/PROCESS			
	-					Rework			Skid-tube	Crosstube		1	Water Jet		Engineering	
Part N	lo.					Scrap			Machining	Small Fab	-	Pro	d. Eng. Coor.		Quality	
	-					\ Use-as-is			noforming	Finishing		<b>-1</b> .	re/Packaging		Other	
NCR N	lo					Suspected Unapproved			Large Fab	Composite			Supplier			
								<u></u>								
Root					Desc	ription of work order update		Initial	Acti			Sign &			•	
Cause	_	Date	Step	Qty		or non-conformance	Ch	nief Eng	Descri	ption		Date	Verification	1	QC Inspector	
Design	_			,												
Doc/Data																
Equip/Tooling					}							· ·				
Handling/Pre	$\dashv$												·		•	
Material	$\dashv$															
Operator Offset/Setup	!															
Process	-															
Supplier	$\dashv$															
Training	$\dashv$												ľ			
Transport	$\dashv$															
Unapproved	一															
. U			*		<u> </u>		FA	ULT CAT	regory	_		<u> </u>	<u> </u>			
Landin	ng G	ear	. •			General										
		Bending				Bend		Folio/P	rogram			Outside Dim	ensions		Pressure/Forced	
	<u></u>	Centre No	ot Concen	itric		BOM/Route		Grain				Over/Under	tolerance		Set-up	
	](	Cracks				Broken/Damage/Defect		Hardwa	ire		L	Part Incorre	ci		Temperature/Cure	
		Crimp/Kir	nk/Ripple,	/Wave		Burrs		Inspect	ion Incomplete/Un	qualified	L	Part Lost/M	issing		Weld	
		Cuffs			ļ	Contamination		Instruct	ions Incomplete/U	nclear		Part Moved			Wrong Stock Pulled	
`		Crushing				Countersink	Ŀ	-	ned/off center			Positioned V				
		Heat Trea				Cut Too Short	<u> </u>	Mislabe			L.	Power Loss/	Surge		Other	
	-		n Strip in	Tube		Drawing	$ldsymbol{f eta}$	Misread								
	_	Marks/Ch			<u> </u>	Drill Holes	L	Off-set								
	_	Turning S				Finish		4	Calibration				···			
		Wave/Tw	ist in Tub	e		Fit/Function		Out of 9	Sequence							

Wednesday, Jui	ne 04, 2014 3	3:07:32 PM		1 / 1	1.177								
tem ID: Revision ID: tem Name:	D3490-5 Cross Bolt Sp	nacer		Accept	*N900	040	100	<b>)</b> *	Setup	Start Stop	*N:		
Start Date: Required Date Reference:	6/04/14	Start Qty: 30.00 Req'd Qty: 30.00	*30* *30*		Cust Item I Customer:	ID:					"INI	S2*	
Approvals:	Process Pla	an:	Date:	Tooling:	D:	ate:	_		Run	Start	*N	R1*	
	QC:		Date:	SPC (Y/N):	D:	ate:				Stop	*N	R2*	
Sequence ID/ Work Center 1 25	<b>ID</b>	Operation Description		Set Up/ Run Hours	Tool ID	Tool#	Plan Code	Accep Qty	t Re Qt		Reject Number	Insp. Stamp	
*105* Skidtubes		<b>Memo</b> Clean space Batch:	rs with Ultra Aluminum Cl	0.00 eaner				33	_ &	T .	BEI	4-06	<u>'</u> -/
*120* Packaging		Identify as per dwg & Sto  Memo  ***STOCK	ock Location: //S	0.00				33	_ £	<b>&gt;</b>	BEI	V-067	16
*1 <b>4</b> 0* QC		QC21- Final Inspection	- Work Order Release	0.00				MC	<u> </u>	14-00	e-18		_
Quality Control									W)	4-6	17		

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DQA:			Date:												TOAPT
						<b>WORK ORDER NON-</b>	-CC	ONFO	RMANCE / L	JPDATE					AEROSPACE
QA Closed:			Date:								Wo	ork Order up	date only		
Work Orde	er:					DISPOSITION				AGAINST	DE	PARTMENT	PROCESS		
Part N	•					Rework Scrap Use-as-is Suspected Unapproved			Skid-tube Machining noforming Large Fab	Crosstube Small Fab Finishing Composite			Water Jet d. Eng. Coor. e/Packaging Supplier		Engineering Quality Other
Root					Desc	ription of work order update	П	nitial	Ád	ction		Sign &	· · · · · · · · · · · · · · · · · · ·		
Cause		Date	Step	Qty		or non-conformance	Ch	ief Eng	Desc	cription		Date	Verification	า	QC Inspector
Design Doc/Data Equip/Tooling Handling/Pre Material Operator															
Offset/Setup Process															
Supplier Training Transport															
Unapproved			ļ	L	L		EAI	UT CAT	I TEGORY						
Landir	ng (					General	-A	OLI CA	ILGORI						
		Bending Centre Not Concentric Cracks Crimp/Kink/Ripple/Wave Cuffs Crushing			Bend BOM/Route Broken/Damage/Defect Burrs Contamination Countersink Cut Too Short		Grain Hardwa Inspecti Instruct	Folio/Program Grain Hardware Inspection Incomplete/Unqualified Instructions Incomplete/Unclear Misaligned/off center			Outside Dimensions Over/Under tolerance Part Incorrect Part Lost/Missing Part Moved Positioned Wrong			Pressure/Forced Set-up Temperature/Cure Weld Wrong Stock Pulled Other	
		Heat Trea		Tubo	$\vdash$	1	-	1		L		Power Loss/	ourge [		Other
}		Inspection Marks/Ch		eauı	-	Drawing Drill Holes		Misread Off-set							
}		Turning S			-	Finish		4	Calibration						
		Wave/Tw			-	Fit/Function	<u> </u>	4	Sequence		•				

14-06-14

Wednesday, June 04, 2014 3:07:31 PM

Work Order ID: 120522

\*120522\*

Parent Item:

D3490-5

\*D3490-5\*

Parent Item Name: Cross Bolt Spacer

**Start Date:** 6/04/14

10.000'

Required Date: 6/04/14

**Start Qty: 30.00** 

Required Qty: 30.00

**Comments:** 

IPP Rev:A New Issue 06-03-03 JLM

Component Item ID/	Replacement	Mfg/	Bin Primary	Last	Route	Unit of	Qty on	Qty per Kit	Total	Qty	Date Sta
Item Name	Item ID	Purch	Item Location	Location	Seq ID	Measure	Hand		Qty	Issued	Issued
M6061T6T0.3125W.05		Purchased	No		100	f	313.2370	0.266	9		DAS

## \*M6061T6T0 3125W 058\*

ALUM TUBE .3125 x .058w

<b>Location</b>	Loc Qty	Loc Code	•
MAT013	313.237		
123289	2		
m127600	25.387		
m128855	285.85		10.000'

DQA:			Date:											אר (
						WORK ORDER NON	-C(	ONFO	RMANCE / U	PDATE		_	AEROSP.	ACE
QA Closed:			Date:							· · · · · · · · · · · · · · · · · · ·	Work Order u	odate only		
Work Orde	er:					DISPOSITION				AGAINST	DEPARTMENT	/PROCESS		
	•					Rework			Skid-tube	Crosstube		Water Jet	Engineering	
Part N	lo.					Scrap			Machining	Small Fab	Pro	d. Eng. Coor.	Quality	
NCR N	lo.				<del></del>	Use-as-is Suspected Unapproved		Thern	noforming	Finishing Composite	Rec/Sto	re/Packaging Supplier	Other	
Root					Desc	ription of work order update		nitial	Act	ion	Sign &			
Cause		Date	Step	Qty		or non-conformance	Ch	ief Eng	Descr	ription	Date	Verification	QC Inspecto	or
Design Doc/Data Equip/Tooling	, <del>4</del> ,	•												
Handling/Pre					·									
Material		٠								,				
Operator												i	İ	
Offset/Setup			:						i					
Process					1								·	
Supplier												l		
Training												<b>!</b>		
Transport												6		
Unapproved			<u> </u>		<u> </u>					·				
							FA	ULT CAT	TEGORY					
Landir	ng (	1			_	General 1	_	1 .		-		_	_	
		Bending				Bend		4	rogram	ļ	Outside Dim	F	Pressure/Forced	
	_	Centre No	ot Concer	ntric		BOM/Route	_	Grain		-	Over/Under		Set-up	
		Cracks		•		Broken/Damage/Defect		Hardwa			Part Incorre		Temperature/Cu	re
		Crimp/Kir	nk/Ripple	/Wave		Burrs	⊢	1 '	ion Incomplete/Ur	· .	Part Lost/M	· -	Weld	
		Cuffs			-	Contamination	$\vdash$	4	ions Incomplete/U	Jnclear	Part Moved		Wrong Stock Pul	led
		Crushing			$\vdash$	Countersink	$\vdash$	4	gned/off center	}	Positioned V		-Joshan	
		Heat Trea		T., b -	$\vdash$	Cut Too Short	$\vdash$	Mislabe		Ĺ	Power Loss/	ourge [	Other	
	_	Inspection	•	rube	 	Drawing Drill Holos	$\vdash$	Misread Off-set						
		Marks/Ch Turning S		-	-	Drill Holes Finish	$\vdash$	4	Calibration					
		Wave/Tw			-	Fit/Function	$\vdash$	4	Sequence					
		I vave/ I W	ist iii tub	<i>,</i>	L	prigramedon		Jour of s	ocquence					

DART AEROSPACE LTD	Work Order:	120522
Description: Crossbolt Spacer	Part Number:	D3490-5
Inspection Dwg: D3490 Rev: A		Page 1 of 1

## FIRST ARTICLE INSPECTION CHECKLIST

	x	First Article	Prototype
_			

Drawing	Tolerance	Actual	Accept	Reject	Method of Inspection	Comments
Dimension		Dimension			1	.,
3.085	+0.030/-0.000	3.100	/		5108	Vew
0.050 x 45°	+/-0.010 x 0.5°	.045	/			
Ø0.313	+0.006/-0.001	.312	V			
0.058	+/-0.010	.054	V		V	
			·			
		_				
		_				

Measured by: 9-89

Date: 14-06-14

Date: 14/06/15

Dass

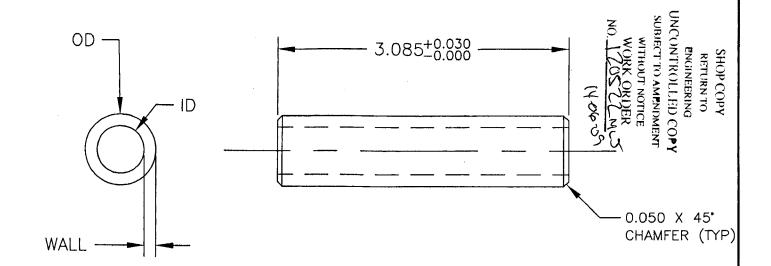
Prototype Approval: N/A

Date: N/A

Rev	Date	Change	Revised by	Approv <b>¢</b> d
Α	06.09.01	New Issue	KJ/JLM C	
			· · · · · · · · · · · · · · · · · · ·	<del></del>



 DESIGN	PH	DRAWN BY	DART AEROSPACE PORT HADLOCK,	
CHECKE	A	APPROVED	drawing no. D3490	REV. A SHEET 1 OF 1
DATE		·	TITLE	SCALE
06.01	.04		CROSS BOLT SPACER	NTS
Α		06.01.04	NEW ISSUE	

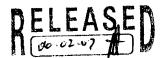


## D3490-1/-3/-5 CROSS BOLT SPACER PARTS LIST

PART NUMBER	OD	WALL	ID (REF)	MATERIAL SPEC
D3490-1	0.500	0.049	0.402	M6061T6T0.500W.049
D3490-3	0.750	0.080	0.591	M6061T6R0.750
D3490-5	0.313	0.058	0.197	M6061T6T0.313W.058

## D3490-1/-3/-5 CROSS BOLT SPACER

- 1) MATERIAL: ALUMINUM 6061-T6 (QQ-A-200/8 OR QQ-A-225/8)
- 2) ALL DIMENSIONS ARE IN INCHES
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED



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